

OREGON COMMUNITY DEVELOPMENT GRANT APPLICATION
INTERGOVERNMENTAL RELATIONS DIVISION

TECHNICAL ASSISTANCE
APPLICATION

1. Applicant: City of Elgin
Address: P.O. Box 128, Elgin, Or. 97827
Telephone: 437-2253
Amount Requested 10,000
Is the population of the project area less than 2500?
Contact Person: Betty Hulse, Recorder
Address: P.O. Box 128, Elgin, Or. (X) Yes () No
Telephone: 437-2253
Person Responsible for Grant Administration: Betty Hulse, Recorder
Address: P.O. Box 128, Elgin, Or. 97827
Telephone: 503-437-2253

2. Project title and (one sentence) description.

Elgin Sanitary Sewer System Project:

The development of a comprehensive plan to improve the present sanitary sewer system, network delivery-treatment, to meet increased DEQ standards.

I certify that, to the best of my knowledge: (1) all information contained in this application is valid and accurate; (2) the submission of this application has been authorized by the governing body of the city/county; and (3) if funding is received, we will comply with all applicable federal requirements as described in the attached assurances.

Signature: Betty Hulse
Name: BETTY HULSE

Title: CITY RECORDER
Date: 12-10-85

Signature: Melvin Wood
Name: MELVIN WOOD

Title: PRESIDENT OF COUNCIL
Date: 12-10-85

APPLICATION INSTRUCTIONS

In order to apply for this Oregon Community Development grant, it is necessary to submit a complete application to the Intergovernmental Relations Division, 155 Cottage NE, Salem, OR 97310, between December 2-13, 1985, 5:00 PM. Submit one original and three copies of the application.

OREGON COMMUNITY DEVELOPMENT GRANT APPLICATION

APPLICANT: City of Elgin

A. GENERAL

1. ATTACH MAP OF PROJECT. Is the project in your jurisdiction? YES. If no, explain.
Figure 1
2. Why are OCD funds needed to complete this project? Describe your efforts to obtain funds from other sources.

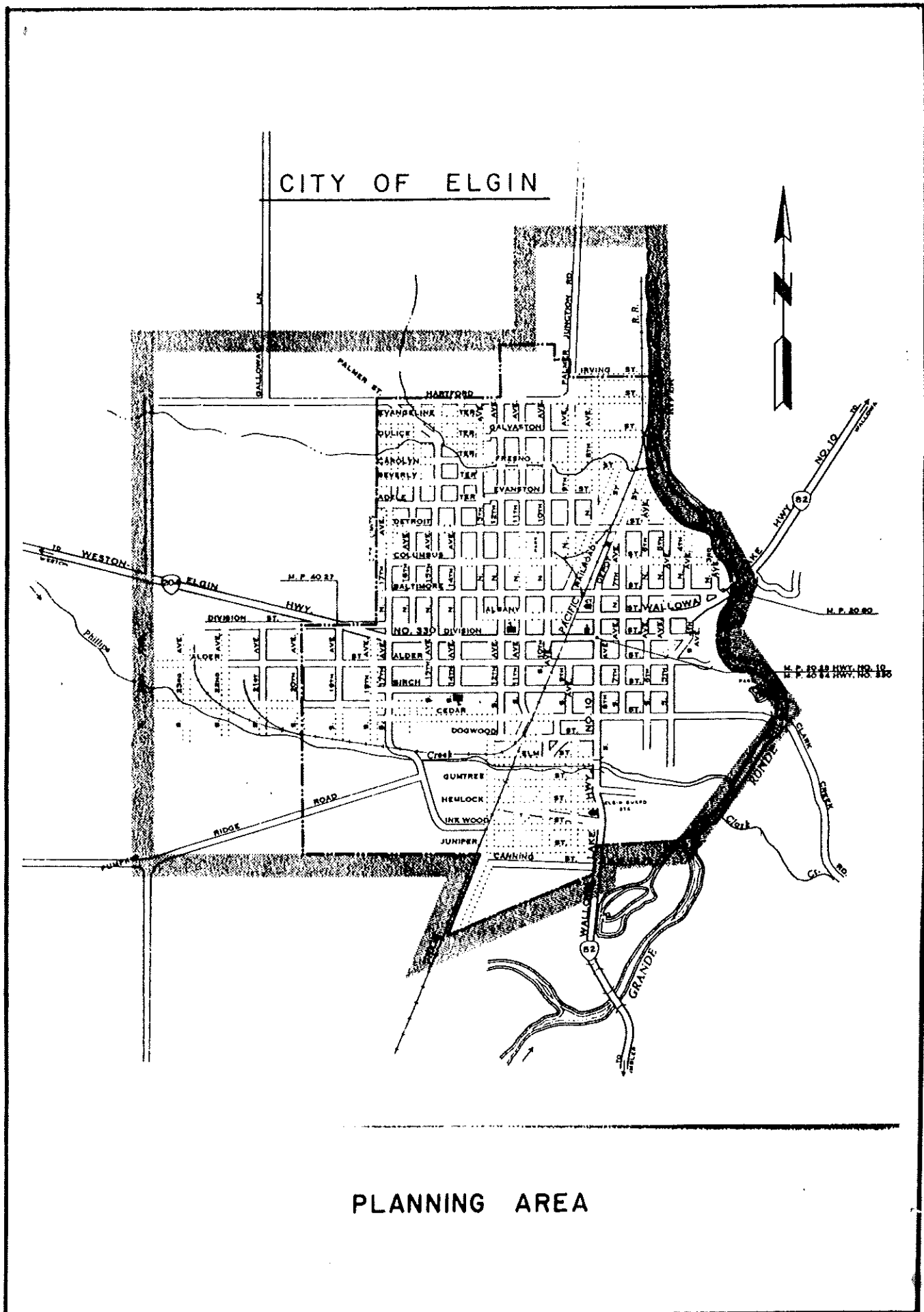
The City voters have approved bond measures for past water and sewer improvements. Additional funding has been received from HUD, GmHA Grants, as well as contributions from the Boise Cascade Corporation (principal industry), and private developers. Improper/inadequate storm-water sewers have resulted in problems with sanitary sewers being overloaded with storm water. Raising funds in these economically depressed times, and in an area of predominately low and moderate income families (64.7%) is difficult. Elgin is a distressed area in that the economy is unstable, resulting from instabilities in the agriculture and lumber industries, unpredictable weather causing severe winter moisture accumulations and spring runoffs, and a high water table and many localized springs--all of which overpowers present local effort. The inability of the City of Elgin to properly address the transportation of ground water, melt water and effluent in its sewerage systems stems both from a lack of knowledge to correct the problems and from an anticipated inadequate financial basis to correct the problems. The requested Technical Assistance Grant is expected to answer the first part, how to correct the problems, and to determine the actual financial resources necessary to correct the problems. With knowledge the City of Elgin may be able to overcome the problems outlined in the Elgin Integrated Sewer Project and continue as a viable City and community.

5. Check the National Objective you will be addressing in this project. Attach a detailed description (as per appendix J) of how you will meet the objective.

 X Benefit low and moderate income persons (over 51% benefit to low and moderate persons)

 Aid in prevention or elimination of slums and blight.
3. Do you have verification of a threat to public health or safety from an independent source? NO If yes, attach copy of letter.
4. Are you aware of any environmental concerns with this project such as historic designations, location of project in a flood plain, etc.? If yes, explain.

NONE



6. Has a public hearing been held on this project? YES If yes, attach notice of hearing and minutes of meeting. (See Appendix E)
7. Have you received any adverse comments regarding this project? _____ If yes, explain the concerns raised and your response to them. (See Appendix E)
8. Do you certify that you have or will adopt within the grant period, a program for ongoing operation, maintenance and replacement of the system? (X) Yes () No.

B. COMMUNITY DEVELOPMENT PLAN

1. LONG RANGE COMMUNITY DEVELOPMENT PLAN

- a. Does your jurisdiction have a Comprehensive Plan which has been acknowledged by the State? YES 3/15/84
- b. Have there been amendments? YES
- c. Do the amendments apply to community development needs? NO
If yes, explain.
- d. Is the project compatible with the local Comprehensive Plan and State agency plans? YES If no, explain.
- e. If you do not have an acknowledged Comprehensive Plan, attach your long range community development and housing plan.

December 3, 1985

In speaking of the need of an improved sanitary sewer system for the City of Elgin Ralph Reed stated, "In 1965 the City of Elgin constructed the present sewer system. Over the years a lot of time and money have been spent in keeping it going and usable. In 1975 the city was told by DEQ that it must be updated to continue meeting that commission's standards, especially if the city were to grow. The city chose to do nothing about it. Right now the treatment facility does not meet DEQ standards especially during heavy runoff seasons. DEQ allows it to remain in use because it was built before present standards were set. We are requesting a planning grant and help in designing and improving the system. The need is twofold. First, of course, is to bring it up to standard. And it's also obvious that if we expect to attract industrial development we need to improve our present system."

Mel Wood, president of the city council, is in favor of applying for the grant due to the needs. The economy is low here right now and another industry of fairly good size is most desirable. Ethel Smith, head of the water and sewer commission for the city, has seen severe problems during winter months when runoff is high and says there is a very real need of improvement of the entire system. Other members of the council, Jenny Gifford, Pat McMullen, Galen Clark, as well as the several citizens, all voiced approval of grant application as they have seen the need of an upgraded system over the years. Russ Hug, former mayor of Elgin, said there has been some improvement over the past few years but, mostly due to lack of finances, there is still much to be done to have an effective and efficient system.

Due to the date of the last study that was done it is necessary to have another study made in order to update the data. It was agreed by all present that the present system would not be sufficient for another industry, especially one with heavy water use.

As one person stated, "We must realize that even seemingly impossible situations, as far as industrial potential is concerned, are not impossible if a city's sewer and water facilities are adequate."

WASTEWATER TREATMENT

Elgin has a two-cell lagoon for wastewater treatment. Each cell has a surface area of 6 acres. Originally designed for a population equivalent of 2300, the Oregon Department of Environmental Quality now considers it a marginal facility under current conditions, despite the fact that the City's population is well below 2300.

The problems with Elgin's lagoon are caused by a combination of weather and high ground water. During the summer months the lagoons do an excellent job of treating the waste water and also holding it for last summer release into the Grande Ronde River. During the summer months, the groundwater table in Elgin falls, reducing the amount of sewer infiltration.

In the winter, Elgin's lagoons freeze over. This greatly reduces the oxidation of the waste water. At the same time the groundwater rises, increasing infiltration to the sewers. This in turn increases the flow of waste water into the lagoons and decreases the treatment time. It is during the late winter months when the ground begins to thaw that the existing system does not meet current DEQ waste treatment standards.

Table 1 shows in detail just why Elgin's lagoons do not meet DEQ standards. Column 1 shows the monthly inflow into the Elgin lagoon during parts of 1982 and 1983. In column 2, these inflows have been converted to cubic feet per second (cfs), the units used to describe river flow.

Lagoons in Oregon are supposed to hold wastewater for at least 30 days. During this period, the plant life in the lagoons oxidizes the wastes, making the wastewater less offensive. Column 3 shows the theoretical detention time, in days, assuming no evaporation or lagoon seepage. Due to the heavy infiltration, especially during the spring months, the 30 days detention is seldom achieved.

TABLE 1
ELGIN LAGOON CHARACTERISTICS

MONTH	INFLOW		DETENTION LAGGED		STREAMFLOW		DILUTION	
	(1000 GALS)	(CFS)	(DAYS)	OUTFLOW (CFS)	(CFS)		RATIOS	
	1	2	3	4	5	6	7	8
JAN.	6676	0.34	18	0.13	559	90	4202	677
FEB.	12602	0.65	9	0.34	822	106	2387	308
MAR.	13507	0.70	9	0.65	1108	171	1705	263
APR.	9521	0.49	12	0.70	1764	487	2532	699
MAY	8800	0.45	13	0.49	1879	439	3826	894
JUN.	2522	0.13	47	0.45	997	144	2197	317
JUL.	1440	0.07	81	0.13	175	11	1345	85
AUG.	3560	0.10	33	0.07	40	1.7	539	23
SEPT.	3997	0.21	29	0.18	43	6.9	234	38
OCT.	4592	0.24	26	0.21	87	31	422	150
NOV.	6595	0.34	18	0.24	164	65	692	274
DEC.	2579	0.13	45	0.34	398	86	1170	253

Once the wastewater has been treated in a lagoon, it is then diluted by dumping it into a nearby stream or river. Columns 5 and 6 show the mean and minimum monthly streamflows over a 25 year period for the Grande Ronde River just upstream of Elgin. These flows do not include the flow in Phillips Creek. Column 4 shows the inflows, moved ahead one month, to adjust for the 30 days desired detention in the lagoon. Columns 7 and 8 show the ratio of streamflow to outflow for the mean and the minimum recorded monthly average streamflow. The State of Oregon considers a ratio of 20 to 1 to be the minimum acceptable dilution ratio.

The flows in this table are all monthly averages. Because the Grande Ronde is used so much for irrigation, it is not unusual for it to go dry during hot summer days. To avoid problems with waste discharge during the dry season, the City of Elgin has worked out a plan with the DEQ whereby the lagoons levels are varied and the lagoons hold all wastes during the dry spells, for discharge in the fall when the rains come.

In summary, Elgin currently has a lagoon that is overloaded because of high groundwater resulting in high infiltration and because of ice cover during the winter. The poor treatment provided by the Elgin lagoon is somewhat offset by the high dilution with the Grande Ronde River, the highest dilutions occurring when the treatment is poorest.

During the past year, Elgin has undertaken a major sewer repair program, complete with TV inspection of the major problem areas. This should help reduce the infiltration through the City's system. Many of the infiltration problems are known to occur on private property between the residences and the City's sewer lines. To eliminate these problems the property owners will have to take corrective action.

A wastewater facilities plan for Elgin was prepared in 1976 (Reference 1). This plan listed 4 courses of action the City might take to improve wastewater treatment results. Also included in this plan was "Alternative S - Do Nothing Now", the alternative selected by the City. This plan noted the possibility of a change in effluent standards by the state. Since the study was released, the state has indeed reduced its treatment standards for lagoon effluent.

2. SHORT RANGE COMMUNITY DEVELOPMENT PLAN

List activities that address short range community development needs, including the needs of low and moderate income persons. Please indicate estimated percent of benefit to low and moderate income persons.

<u>PROJECT/NEED</u>	<u>Percent of benefit to low and moderate income persons, if any</u>
1. Storm Sewer development and expansion	100
2. Sanitary sewer improvement and expansion	100
3. Street improvment and expansion	100
4. Main street enhancement and development	100
5. _____	
6. _____	
7. _____	
8. _____	
9. _____	
10. _____	

PART II PROJECT INFORMATION

A. What is the intent of this project? What is the CD problem it will address?

The Elgin Sanitary Sewer System Project seeks information on the effective and efficient manner to transport and treat effluent matter. Funds are needed to provide the City of Elgin with necessary monies to complete surveys and engineering cost analysis for updating the present sanitary sewer system, transport and treatment.

B. What is the proposed work plan for this grant? What activities would you perform?

This grant requires the technical assistance of a consultant. The consultant would:

1. Compile and prepare a topographical map of the City which defines existing streets, existing sanitary sewer system network and countour lines.
2. Utilizing standard hydrological procedures, develop a sanitary sewer system plan for transporting effluent matter, including pipeline location, size and priorities.
3. Utilizing standard effuent treatment methods, develop a sanitary sewer treatment plan that integrates the present treatment facility into the recommended plan and meets current DEQ Standards. *EPA*
4. Develop a cost estimate plan for all proposed improvements. *up date to step 1 - 2. Plan.*

C. Describe the urgency of the need for this grant.

To compete with surrounding cities in attracting new residents and to maintain present residents the City of Elgin needs to upgrade and expand its sanitary sewer system. The long term benefits of an improved sewer system also includes attracting industry to the Elgin area.

D. Describe the end product and its intended use after it is completed.

1. Meet DEQ standards.
2. Provide more efficient and effective sewer transport
3. Provide more efficient and effective sewer treatment
4. Attract new residents to Elgin.
5. Attract new industry to Elgin.

- E. If awarded this grant, will you perform the work by using existing staff, hiring additional staff or hiring a consultant?

The Grant requires the technical assistance of a consultant.

- F. Will the benefit be city wide or area specific. Attach a map outlining the affected area. What is the percent of L/M persons benefitted?

City Map; Includes all L/M income persons in City. 64.7% city residents are considered L/M income.

See Figure 1

- G. What other information can you provide that demonstrates your need for this Technical Assistance Grant?

EXISTING COLLECTION SYSTEM

The City of Elgin constructed a sewer system in 1965. The majority of the collection system was installed at that time. Figure 5 shows the layout of the present system. Collection lines consist of six and eight inch pipes while interceptors and outfall lines consist of eight, ten and twelve inch pipes. All lines installed in 1965 were rubber gasket asbestos cement pipe. Service connections were installed by private contractors and consisted of PVC and asbestos cement pipe. Many service connections were made with service tees, but a number of connections were grouted directly onto collection lines. The installation of the collection system was under the control of the Design Engineer. Because the system is relatively new and construction was supervised by the Design Engineer, it has been assumed that the majority of the system is probably properly installed. However, the excessive flow in the system, as discussed hereafter, suggests that some major leaks exist in the system.

The 12 inch line on Division Street was part of an old storm drain before being incorporated as a part of the sewer system. This line was constructed with clay tile pipe. A number of roof drains, basement drains, etc., are known to exist on this line.

EXISTING SEWAGE TREATMENT FACILITY

The existing sewage treatment facility consists of a sewage pump station with 2 pumps each rated at 450 gpm which will pump 600 gpm in parallel, a two cell facultative lagoon with a total surface area of 12 acres, a chlorinator building located over a concrete chlorine contact basin, and an outfall to the Grande Ronde River.

The existing facilities were constructed in 1965 and have been well maintained. One problem with the facilities, however, is that the existing pumps have inadequate capacity to handle the short-term peak flows which sometimes occur during the snow melt period, with the result that the raw sewage is bypassed to an irrigation ditch beside the pump station.

